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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,563	01/30/2004	Rajarshi Das	YOR920040007US1	6337

7590 09/29/2008

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EXAMINER	
TANG, KENNETH	

ART UNIT	PAPER NUMBER
2195	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/768,563	DAS ET AL.	
	Examiner	Art Unit	
	KENNETH TANG	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/30/04, 3/12/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claim 35 is presented for examination. Claims 1-34 have been cancelled by the Applicant in the Preliminary Amendment on 5/16/08.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rolia (US 7,310,672 B2) (hereinafter Rolia1) in view of Rolia et al. (US 2005/0097560 A1) (hereinafter Rolia2).

4. As to claim 35, Rolia1 teaches an automated method for allocating resources among a plurality of resource-using computational entities in a data processing system (Abstract, Fig. 3, items 320, 330, 340, 322, 332, 342, col. 15, lines 30-60), the method comprising:

establishing a service-level utility for each of said plurality of resource-using entities, wherein the service-level utility is representative of an amount of business value obtained by

each of said plurality of resource-using entities for one or more levels of performance and demand associated with each resource-using entity (service level objectives that define performance objectives or quality of service –QoS) (col. 2, lines 18-44, col. 5, lines 40-48, col. 7, lines 40-57, col. 12, lines 63-67 through col. 13, lines 1-27);

transforming said service-level utility into a resource-level utility for each of said plurality of resource-using entities, wherein the resource-level utility is representative of an amount of business value obtained by each of said plurality of resource-using entities when a quantity of said resources is allocated to the resource-using entity, wherein the resource-level utility indicates, for at least one of said plurality of resource-using entities, an estimated cumulative discounted or undiscounted future utility starting from current state descriptions of said at least one resource-using entity (dynamic resource manager determines allocation based on mathematical model that includes the predicted metrics, demand values/metrics, service level objectives, etc. and can make determinations for the aggregated/entire system-wide level as well as local level) (col. 7, lines 40-57, col. 6, lines 1-35, col. 9, lines 23-37, col. 10, lines 20-51).

aggregating said resource-level utilities of all of said plurality of resource-using entities (dynamic resource manager can take into consideration both the aggregated/entire system-wide level as well as local level) (col. 11, lines 16-33 and 49-50, col. 7, lines 40-57, col. 9, lines 23-37, col. 10, lines 20-51);

computing a resource allocation from aggregated utility information by executing an optimization method (dynamic resource manager can take into consideration both the aggregated/entire system-wide level as well as local level) (col. 11, lines 16-33 and 49-50, col. 7, lines 40-57, col. 9, lines 23-37, col. 10, lines 20-51) to maximize a total utility of said data

processing system (col. 6, lines 9-20), wherein said optimization (maximization of the objective function) method comprises a standard linear or nonlinear algorithm (col. 14, lines 1-23); and

executing and conveying to the plurality of resource-using entities said resource allocation (col. 2, lines 37-44, col. 15, lines 30-61).

5. Rolia1 is silent in the training on a temporal sequence of observed data using an adaptive machine learning procedure. However, Rolia2 discloses resource allocation based on complying with service levels, which includes knowledge management components used as a learning tool for resource information that is being monitored and analyzed. Thus, decisions on resource allocation can be adapted and made based on learned resource information (page 4, [0043]). Rolia1 and Rolia2 are analogous art because they are both in the same field of endeavor of resource allocation based on complying with service levels and both are attempting to solve the same problem of improving/optimizing utility. One of ordinary skill in the art would have known to modify Rolia1's resource allocation system such that it would include the learning feature of Rolia2's resource allocation system. The suggestion/motivation for doing so would have been to provide the predicted result of providing resources from the learning tool, which would increase productivity and improve business transactions, which would thus increase business revenue. Furthermore, assurances and controls would be improved for computing utility environments, which would be advantageous for the business and engineering applications (page 1, [0007]). Therefore, it would have been obvious to one of ordinary skill in the art to combine Rolia1 and Rolia2 to obtain the invention of claim 35.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- **Logsdon et al. (US 6,957,113 B1)** discloses resource allocation that is self-learning and based on measurable characteristics and a mathematical model (see Abstract, claim 4).
- **Seneviratne et al. ("User centric QoS management framework and its implementation", 2001)** discloses optimized management of resources based on Quality of Service guarantees/levels with an Adaptation control unit that is capable of learning (see Abstract, Section 2.2).
- **Chen (US 2002/0069235 A1)** discloses the optimization of the mathematical model of allocating resources using a self-learning resource allocator (see Abstract, claim 5, [0056]).
- **Yoshimura et al. (JP 2005182696 A)** discloses a machine-learning system that acquires history information for performing learning and evaluation of received learning data, and acquires other history information to select learning data used when performing machine learning of received data. The advantage/motivation for using this invention is being able to perform high precision machine learning for the learning data (see Derwent Abstract).
- **Cheyer et al. (US 6,851,115 B1)** discloses dispatching tasks to a selected client agent based on goal satisfaction and used for machine learning applications (see Abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH TANG whose telephone number is (571)272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

/Kenneth Tang/
Examiner, Art Unit 2195